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Alberta AGRICULTURE, FOOD AND RURAL DEVELOPMENT

Special Crops Newsletter

Issue 7 **April, 1999**

Special Crops Product Team

The Special Crops Product Team represents a cross-section of specialists from Alberta Agriculture, Food and Rural Development and Agriculture and Agri-Food Canada. It is a liaison between industry and government. The Team's mission is to lead departmental activities in Special Crops, consistent with industry objectives, in response to diversification, value-added and market place opportunities.

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Introduction to the Agri-Food Trade Service (ATS)

The Agri-Food Trade Service (ATS) is an international business development service provided by Agriculture and Agri-Food Canada and the Department of Foreign Affairs and International Trade linking you into a network of agri-food specialists across Canada and around the globe.

Canadian companies can save time and money by accessing market information, trade leads, international contacts, incoming and outgoing missions, and trade programs through the ATS.

Some services the ATS offers are:

1. FaxBack
2. ATS On-Line
3. WINExports
4. Canadian Company Capabilities Database
5. Canadian Agri-Food Trade Statistics
6. Agri-food specialists abroad
7. Incoming missions
8. Team Canada Inc.
9. ExportSource
10. Team Canada Market Research Centre
11. Program for Export Market Development
12. Team Canada Missions
13. International Agri-Food Shows

Please watch in future issues of the Special Crops Newsletter for further details on these ATS services and how they can help you market abroad.

In Alberta and the Territories, Brenda McIntyre is available to assist the special crops industry develop export market opportunities. She can be contacted at (780) 495-4143 or e-mail at mcintyreb@em.agr.ca

The Market and Marketing of Herbs

The market can be defined as the people you hope or think will end up with your product. The process of making the consumer aware of your product and motivating them to make repeated purchases can be called marketing. If you are producing (or considering) a medicinal or culinary herb, then you may want to consider the following.

From a herb producer's perspective, the market can be divided according to three marketing options:

- Individual people buying a consumer-ready product. This is also called direct marketing or farm gate sales where the primary producer sells to the end user.

- Brokers, manufacturers, retailers, and distributors that get your product to the consumer for you. This option assumes that you, the producer, produce a market-ready product but rely on other people to complete a portion of the marketing.

- Fellow growers, buying co-operatives, brokers, and manufacturers that buy your product for further processing and resale purposes. This options assumes that you sell your product in a raw or unfinished state and that someone else is responsible for testing, processing, packaging, labeling, distribution, and sales.

In reality, the market options may not fit so neatly into these classes. The producer needs to have a detailed product description and well defined market to make the task of developing a marketing plan easier. Producers may also further diversify their operation by targeting more than one market segment. Let us examine the three market options in greater detail.

Direct Marketing/Farm Gate

The distinct aspect of this option is that you maintain direct contact with the end user. A good example would be a farmer's market where you bring your product to the market and interact one-on-one with your customers. The benefits of this option are: that you receive direct feedback on your product; it allows you to provide additional information about your product that may not easily fit on packaging or labeling; and you can readily adjust marketing or production to suit the circumstances.

Other examples of Direct Marketing/Farm Gate sales are mail order, e-commerce through the internet, direct to home distribution system, farm gate sales, and product gift parties.

The greatest limitation of this marketing option is probably volume. By taking responsibility for all aspects of your operation, your ability to grow is limited by your time and productivity.

Brokers, Manufacturers, Retailers, and Distributors

With this type of marketing, you produce a consumer-ready product and then acquire the services of a company or individual to assist with selling. Examples are drug and health food stores. Since you are relying on other people or agencies to sell your product, it is important to develop packaging and labeling that serve several purposes. First, it must meet all the regulatory standards. Second, it must be attractive and distinctive enough to attract attention. Finally, it must provide appropriate and relevant information regarding the product and the company.

Other examples of this marketing option would include speciality shops, grocery and convenience stores, health practitioners, wholesalers, and brokers. It is important to know your consumer so that you can get your product into stores that cater to your customers.

Disadvantages of this marketing option include reduced margins, difficulty in gaining market entry, larger volumes are required, and consistent supply is crucial.

Fellow Growers, Buying Co-operatives, Brokers, and Manufacturers

Under this marketing option, you sell your production in a raw or unprocessed state. In most instances, you will probably be required to identify a buyer after harvest is complete. Sometimes you have a buyer arranged prior to harvest. Examples include: fellow growers buy your production to pool it with their own; brokers deal in herbs for the purpose of reselling them; and manufacturing companies source raw material for the production of their products.

Advantages of this option are lower risk, quicker generation of a cashflow, and less time and involvement in marketing.

The disadvantages of this option are: lower returns; increased susceptibility to price fluctuations; more competition; and limited number of buyers.

Regardless of the options you choose, it is important to complete some research prior to production. The more research that is done, the better your chances for success. Defining your market and developing the marketing plan that works will take dedication, commitment, and hard work.

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Incorporation of Functional Ingredients into Pasta Products

Functional foods, are defined as foods to which a functional ingredient or component, such as fibre, or macro and micro-nutrients with specific health benefits, has been added. The functionality, or health benefit of certain foods may be enhanced through further processing. Often specific ingredients may be incorporated into the manufacture of food products to provide a nutrition or health benefit without affecting the sensory attributes and overall consumer acceptability.

Functional foods have gained strong acceptance in both the European and Asian markets. They are beginning to gain acceptance in North America. Functional foods have a wide range of applications from general improved health benefits (preventative medicine) to very specific applications such as enhancing athletic performance, and special products for the greying population.

The benefits of some foods containing components with health benefits are well known throughout the general consumer population. Vitamins such as E, C and beta carotene have gained widespread acceptance as having health benefits. Many foods contain functional components. Similar to vitamins, these food components are readily available, but on their own are not palatable. These include fractions of flax, such as fibre and oil; yellow field peas containing fibre; and barley beta glucan (fibre).

Functional foods are the principle product of one of the highest growth sectors of the global economy, producing big business prospects as people take more control over their health, try alternatives to conventional medical practice, and learn about how nutrition might reduce the risk of disease. The potential of the entire global market for foods or additives that can be clinically proven to reduce the risk of cancer, osteoporosis, heart disease and other illnesses is estimated to be as high as $40 billion annually over the next five years. Many of the products, available in Europe and Asia, are coming to North America for the first time.

Health Canada is expected to make regulatory changes in 1999 which will make it easier for Canadian companies to market functional foods, ingredients and nutraceuticals in the near future. This new market is expected to generate $10 billion US a year in sales for the Canadian market.

Due to the tremendous potential benefits of functional foods, a research project to develop common food products containing functional ingredients was undertaken at the Food Processing Development Centre. In this research project six functional ingredients were chosen based on health benefits supported in the scientific literature, as well as availability. These were; resistant starch, yellow field pea fibre, barley beta glucan, flax meal, L-carnitine (Vitamin-like substance) and spirulina (algae).

Pasta was chosen as a carrier for the functional ingredients. Pasta has been considered a good vehicle for nutrient additions by groups such as the World Health Organization and the US Food and Drug Administration. Pasta was one of the first foods to which the FDA gave permission for vitamin and iron enrichment in the 1940's. That program was successful because it satisfied a nutritional need and was acceptable for the industrial producer. More immediate rationale for using pasta as a vehicle for functional ingredient addition are: Health and Welfare Canada's Food Guide to Healthy Living recommends five to twelve serving per day of grain products; the yearly average North American consumption of pasta has been increasing between 5 - 10% and is continuing to increase; and interest was expressed by two Alberta pasta manufacturers in this potential niche market.

The objective of this project was to determine the compatibility of selected functional ingredients, having recognized health benefits with pasta products, as well as the effects of processing on cooking quality, physical and sensory characteristics of pastas formulated with these functional.

Conclusions

The handmade pasta samples containing functional ingredients, with the exception of the beta glucan pasta, had good cooking quality attributes as evaluated by Total Organic Matter value, colorimetric cooking loss, swelling index and firmness determinations and were comparable if not superior to commercial pastas.

Cooking quality attributes of the extruded (processed) pasta, including the control, resistant starch, flax meal and pea fibre pastas, were acceptable, based on chemical analyses, but of inferior quality to the handmade pastas. Extruded beta glucan and spirulina pastas had much lower cooking quality and thus were excluded from sensory analysis.

Sensory analyses indicate that extruded pasta formulated with resistant starch was the most preferred and resulted in a consumer acceptable product comparable to the control pasta.

Pasta prepared with resistant starch was the most preferred overall and was well received on all sensory quality attributes examined. Although the flax meal pasta scored comparably to the control for textural attributes and did not differ significantly from the control when tasted with sauce, the ultimate acceptability of this product appears to depend on improving its visual appeal. The pea fibre pasta was the least well received sample of the four and this lower acceptability appears to primarily be due to its dark coloration. Pasta containing flax meal and pea fibre although somewhat less acceptable, merit further developmental work to improve limiting sensory attributes, in particular visual characteristics.

Further development of these functional pastas to address cooking quality and sensory concerns could include these functional ingredients in combination and of varying proportions. Resistant starch with beta glucan or spirulina could result in a pastas with increased firmness and superior cooking quality attributes. Spirulina blended with flax meal may help disguise some unappealing visual aspects of the flax meal pasta, while the flax meal may help to improve the overall cooking quality of the spirulina pasta.

Pasta formulated with L-carnitine demonstrated good cooking quality characteristics in handmade pastas and further investigation into its use as a pasta ingredient for specific niche markets is merited. As L-carnitine is a very water soluble compound, a method to determine the amount of L-carnitine remaining in a cooked pasta product would require development. Exploration into the use of solin flax in pasta manufacture also merits investigation. The golden colored seed coat of solin flax might prove more acceptable in term of consumer visual acceptance and its reduced linolenic acid (fatty acid) content would reduce possible oxidation problems that might be encountered with traditional flax seed.

Further work in the development of these functional pastas would require the inclusion of testing to determine functional ingredient and nutrient retention and availability after processing and cooking. Nutrient profiles and shelf life testing of consumer ready pasta products would be essential to the marketability of these functional food products.

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